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DESIGN OF LABORATORY FACILITIES

A CLASSIFIED LIST OF SELECTED REFERENCES

1947-1962

COMPILED BY  
GERTRUDE FOX, LIBRARIAN  
RESEARCH FACILITIES PLANNING BRANCH

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
PUBLIC HEALTH SERVICE  
NATIONAL INSTITUTES OF HEALTH  
DIVISION OF RESEARCH SERVICES  
BETHESDA, MARYLAND  
1962

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## PREFACE

The references listed in this compilation were obtained by searching the following sources:

- (1). Applied Science & Technology Index, 1958-1962;
- (2) Architectural Index, 1959-1961;
- (3) Cumulative Book Index, 1953-1962;
- (4) Engineering Index, 1959-1961;
- (5) Index Medicus, 1960-1962;
- (6) Library of Congress Books - Subjects - Catalog, 1955-1961;
- (7) National Institutes of Health Library;
- (8) National Library of Medicine Printed Subject Catalog, 1955-1959; and
- (9) Research Facilities Planning Branch Library,

In the preparation of this list of references, an attempt was made to cover all aspects of laboratory design, including planning, landscaping, office design, and equipment. Emphasis has been placed on the most recent information on the design of health-related research facilities.



## I. GENERAL WORKS

### A. Bibliographies 1956-1961

1. Animal Care Panel. Biological Safety Committee. Microbiological Safety bibliography. Argonne, Ill., The Panel. 1961. 24p. References, 1910-1961.
2. Kydd, S. B. and Page, J. K. Selected reading list on laboratory design. Journal. Royal Institute of Chemistry, London. 81:276-280, April 1957. Annotated references, 1947-1957.
3. Meissner, W. A. Laboratory planning--bibliography. (Boston, N. E. Baptist Hospital, 1956). 4p. References, 1944-1955.
4. National Research Council, Canada. Division of Building Research. An annotated bibliography on laboratory buildings, compiled by A.Brass. Ottawa, 1959. 17p. References, 1943-1959.
5. Smith, M. G. and Adams, R. J. Bibliography of selected references on hospitals and health facilities. Montgomery, Alabama. Sherlock, Smith & Adams, 1959. various paging.
6. U. S. Office of Education. College and University Physical Facilities Series: Science facilities planning aids. OE-51004-2, March 1962. Bibliography (1933-1962): p.9-15.
7. Voorhees, Walker, Smith, Smith & Haines. Building type bibliography: research facilities. New York, 1960. 8p. Covers periodical articles in architectural journals, 1951-1957.

### B. General design aspects

8. Architectural Record. Architectural engineering; an Architectural Record book. New York, Dodge, 1955. 494p.
9. Architectural Record. Office buildings: an Architectural Record book. New York, Dodge, 1961. 248p.
10. Barnes, R. M. Motion and time study. New York, Wiley, 1949. See p. 233-7.
11. Dreyfus, Henry. The measure of Man; human factors in design. New York, Whitney Library of Design, 1960.
12. Library Buildings and Equipment Institute, University of Maryland, 1959. Guidelines for library planners. Proceedings of the Library Buildings and Equipment Institute. Chicago, American Library Association, 1960. 128p.

13. Simonds, J. O. Landscape architecture; the shaping of man's natural environment. New York, Dodge, 1961. 244p.
14. Sleeper, Harold R. Building planning and design standards. New York, Wiley, 1955. 331p.
15. Wachsmann, Konrad. The turning point of building; structure and design. New York, Reinhold, 1961. 239p.

C. Laboratory design

Monographs and pamphlets

16. Architectural Record. Buildings for Research; an Architectural Record book. New York, Dodge, 1958. 224p.
17. Association nationale de la recherche technique. Construction des laboratoires de recherche industriels (conception, réalisation, aménagements)... Paris, Eyrolles, 1959. 59p.
18. IBM Research Center. Yorktown, New York, 1959. 40p.
19. Industrial Research Institute, New York. Research in industry; its organization and management. C. C. Furnas, ed. New York, Van Nostrand, 1948. 574p. See particularly p. 308-78.
20. Institute of Physics, London. Design of physics research laboratories; a symposium held by the London and home counties branch of the Institute at the Royal Institute on 27 Nov. 1957. New York, Reinhold, 1959. 108p.
21. Lassen, Fritz. Laboratorien; Planung, Bau, Einrichtung. Darmstadt, Verlag Das Beispiel, (1957). 162p.
22. National Research Council. Laboratory design: National Research Council report on design, construction, and equipment of laboratories. Ed. by H. S. Coleman. New York, Reinhold, 1951. 392p.
23. National Research Council. Laboratory planning for chemistry and chemical engineering. Ed. by H. F. Lewis. New York, Reinhold, 1962. 522p.
24. Nuffield Foundation. Division of Architectural Studies: The design of research laboratories; the report of a study. New York, Oxford University Press, 1961. 211p.

25. Perry, J. H., ed. Chemical business handbook. New York, McGraw-Hill, 1954. See particularly section 4, p. 24-37: "Facilities for research."
26. Schramm, W. Chemische und biologische laboratorien; planung, bau, und einrichtung. Wernheim, Verlag Chemie, 1957. 250p. Bibliog: p. 239-42.
27. U. S. National Institutes of Health. Research Facilities Planning Branch. Laboratory animal housing, prepared by Robert S. Runkle and William W. McMaster. Bethesda, Md., 1962. 42p. Selected references: p. 39-42.
28. U. S. National Institutes of Health. Research Facilities Planning Branch. Planning the health research facility, prepared by J. A. Cofrancesco and W. W. McMaster. Bethesda, Md., 1962. 46p. Selected references: p. 43-6.
29. U. S. Navy. Bureau of Yards and Docks. Design manual: research, development and test facilities. Navdocks DM-31. Washington, 1961. various paging.

#### Periodical articles

30. Boardman, Donnell W. Laboratory facilities for the practicing physician New Engl J Med 984-90, June 10, 1954.
31. Building new plants for new products. Eng News-Rec 165 (22): 50-80, Dec.1, 1960.
32. Davies, R. L. Design of research laboratories. Royal Institute of Chemistry Journal 81: 5-15, Jan. 1957.
33. Faulconer, P. W. Architecture for science and technology. Pt. I JAIA 37(4): 113-6, April 1962; Pt. II JAIA 37(5): 81-8, May 1962.
34. Haines, C. Planning the scientific laboratory. Arch Rec 108: 107-23, July, 1950.
35. Hurt, R. Planning R/D centers around human factors. R/D 12: 76-88, Jan. 1961.

36. Un laboratoire de la recherche scientifique (Laboratory of scientific research). Construction Moderne 71(12): 443-7, Dec. 1955.
37. Lea, F. M. Buildings--what is required. Symposium on the Direction of Research Establishments, National Physical Laboratory. Teddington. Paper 8. The Builder (London) 191: 589-91, Oct. 5, 1956.
38. Perkowski, J. The research laboratory. J Ind Eng 10(4): 255-60, July/Aug. 1959.
39. Rassweiler, C. F. Physical facilities for research. Chem & Eng News 32(50): 4930-4, Dec. 13, 1954.
40. Second RIBA symposium on laboratories: report of a discussion. Architects' Journal 129: 384-8, March 5, 1959.
41. Snow, H. A. Buildings for Research: Design, construction and layout of laboratories. Symposium on the Direction of Research Establishments, National Physical Laboratory. Teddington. Paper 9. The Builder 191: 591-2, Oct. 5, 1956.
42. Stoetzel, Ralph. Role of the architect in designing R/D center. R/D 12: 5-12, Jan. 1961.
43. Symposium: Construction and design of research laboratories. Ind & Eng Chemistry 39: 440-61, April 1947.

## II. SPECIAL ASPECTS OF LABORATORY DESIGN

### A. Air conditioning

44. Air conditioning system in new research center prevents toxic fume accumulation. Heat Piping & Air Cond 33(11): 136-8, Nov. 1961.
45. Flanagan, R. W. Metals development process integrated with air conditioning at AEC's Ames lab. Heat Piping & Air Cond 34(7): 97-102, July 1962.
46. Swearingen, T. G. Diverse lab facilities require flexibility in air conditioning. Heat Piping & Air Cond 34(7): 132-4, July 1962.
47. Variable pressure system sweetens laboratory air. Eng News-Rec 167(14): 27, Oct. 1961.



48. York, J. E. Ventilation and air conditioning for laboratories. Heat & Vent 50: 30-6, Nov. 1953.

B. Electrical

49. Bello, Louis A., Syska and Hennessy, Inc. Electrical loads in large buildings. Arch Rec 132(1): 172-6, July 1962. Includes laboratories.
50. Dalziel, C. F. Electrical safety in experimental laboratories. National Safety News 63(5): 27-9, 72-5, April 1951.

C. Fume hoods

51. ASHRAE Industrial Ventilation Symposium, Denver, June 26-28, 1961. Design factors in better laboratory hood design. ASHRAE J 3(9): 47-50, Sept. 1961.
52. Barrett, J. C. Design techniques for ventilating research labs. Air Eng 4(1): 31-6, Jan. 1962.
53. First, M. W. New techniques in laboratory ventilation. Air Eng 1(5): 27-31, Aug. 1959.
54. Positive pre-conditioned make up air system serves labs of new chemical research unit. Air Cond Heat & Vent 59(5): 93-6, May 1962.
55. Pritchard, W. H. User requirements for laboratories. No. 3: laboratory benches and fume cupboards. Architects' Journal 126: 322-30, Aug. 29, 1957.
56. Schulte, H. F. et al. Evaluation of laboratory fume hoods. Industr Hyg Quart 15(3): 195-202, Sept 1954.
57. Viles, F. J. Design and uses of laboratory hoods. College & University Business 22(6): 41-6, June 1957.
58. Walls, E. L. and Metzner, W. P. Fume hoods, safety vs. costs. Ind & Eng Chem 54: 42-5, April 1962.

D. Furniture and equipment

59. Halstead, E. G. Laboratory equipment. Prog Arch 37: 126-37, Sept. 1956.
60. Stock, E. H. & Keeler, J. S. Laboratory furniture--a study in design. Anal Chem 28(8): 7A-12A, Aug. 1956.
61. Timber for laboratory bench tops. Lab Practice 3: 464-5, Nov. 1954.
62. Vaclacvik, F. and Melcher, R. How epoxy coatings have reduced maintenance man-hours at Parke-Davis laboratories. Plant Management & Eng. 23(12): 42-4, Dec. 1961.
63. Woodson, W. E. Human engineering guide for equipment designers. Berkely, U of Cal Press 1954. various paging. See p. 1-50--1-57.

E. Plumbing

64. Blenderman, L. Water service for research laboratories. Air Cond Heat & Vent 53(10): 115-7, Oct. 1956.
65. Guss, L. Plumbing design for an aerospace medical research center. Air Cond Heat & Vent 58: 105-10, Sept 1961.
66. York, J. E. Laboratory plumbing. Prog Arch 34: 113-6, Feb. 1953.

F. Space

67. Davies, R. L., Nightingale, J. W. and Bailey, N.T.J. Laboratory design: Survey of space and services requirements in two agricultural research laboratories. Nature 176: 999-1001, Nov. 26, 1955.
68. National Research Council, Canada. Division of Building Research. Report on space requirements for scientific research laboratories, by J. Lorne Gray. Ottawa, 1949. 8p.
69. U. S. National Institutes of Health. Principles of space planning for biomedical research laboratories, by Donald L. Snow. Bethesda, Md., 1962. 97p.

G. Miscellaneous

70. Circular laboratory centers group research. Eng News-Rec 168(17): 57, April 26, 1962.
71. College construction: college research facilities are getting more complex. Eng News-Rec 165: 54-6, Aug. 18, 1960.
72. Engineering aspects of the Monsanto Research Center. Actual Spec Eng 7(3): 93, Mar. 1962.
73. Environmental control and safety; paramount in designing and specifying the Koppers Research Center. Actual Spec Eng 6(5): 69, Nov. 1961.
74. Expansibility and flexibility on a modular plan. Arch Rec 130(5): 176-9, Nov. 1961.
75. Hamilton Manufacturing Company, Two Rivers, Wisconsin. Functional layouts; a planning guide for modern hospital laboratories. (n.d.) 15p.
76. Objective: bomb resistance. Eng News-Rec 151: 33-4, Dec. 31, 1953.
77. Pritchard, W. H. User requirements for laboratories. No. 1: The assessment of site services. Architects' Journal 125: 816-20, May 30, 1957.
78. Pritchard, W. H. User requirements for laboratories. No. 2: The specialized services. Architects' Journal 125: 857-64, June 6, 1957.
79. Smith, Lewis. Mechanical designs aid research for better drugs. Heat Piping & Air Cond 33(8): 120-2, Aug. 1961.
80. Smith, R. Expansion built into R/D center. R/D 12(12): 86-91, Dec. 1961.
81. Webster, A. Safety in the laboratory. Pt. 3. Lab Practice 2: 655-7, Dec. 1953.
82. Windowless building best for research projects. Eng News-Rec 166: 28, Feb. 9, 1961.

83. York, J. E. M.I.T. laboratory: mechanical engineering. Prog Arch 34(10): 32-5, Oct. 1953.
84. York, J. E. Service piping and its equipment for multistory laboratories. Air Cond Heat & Vent 52(5): 96-102, May 1955.
85. Yule Bogue, J. Some aspects of modern laboratory design. Endeavour, 1949, 8: 38-42.

### III. TYPES OF LABORATORIES

#### A. College and university laboratory facilities

86. American Association of Physics Teachers. Modern physics buildings: design and function. New York, Reinhold, 1961. 324p. Bibliog. p. 302-4.
87. Campus buildings. Prog Arch 42(6): 138-45, June 1961.
88. Chemistry buildings--Leicester University: Architects' co-partnership. Arch Rev 130(778): 380-6, Dec. 1961.
89. Goldstein, A. The basic medical sciences in the Stanford Plan. J Med Educ 36: 686-93, June 1961.
90. Cox, A. Second RIBA symposium on laboratories. Chemistry teaching laboratories in universities. Architects' Journal 129: 333-8, Feb. 26, 1959.
91. Harrell, G. T. Planning and construction of a new medical school. J Med Educ 37(1): 1-9, Jan. 1962.
92. International Symposium on Hospital and Medical School Design, Dundee, Scotland, 1961. Hospital and medical school design, international symposium held at Queens College, July 1961. Edinburgh, E. & S. Livingstone, 1962. 2v.
93. Lee, Peter V. University of Southern California School of Medicine. Multidiscipline laboratories. Los Angeles, California, 1961. 5p.
94. Serles, E. R. University of Illinois College of Pharmacy. Amer J Pharmaceut Educ 20: 158-162, Spring 1956.

95. Symposium on design and construction of college and university chemistry laboratories. J Chem Educ 24(7): 320-53, July, 1947.
96. U. S. Public Health Service. Medical school facilities; planning considerations and architectural guide. Washington, GPO, 1961. 183p.

B. Electron microscope laboratories

97. Pease, Donald C. Histologic techniques for electron microscopy. New York, Academic, 1960. See particularly Chapter 1: Organization and management of an electron microscope laboratory, p. 1-13.
98. U. S. National Institutes of Health. Research Facilities Planning Branch. The electron microscopy suite, prepared by J. C. Sell and W. W. McMaster. Bethesda, Md. 1962. 26p. References: p. 15-6.

C. Hospital laboratories (See also Infectious diseases laboratories and Radiological laboratories.)

99. College of American Pathologists. Laboratory planning and design, instructional course. Chicago, 1961. 117p.
100. Creighton, L. H. and Rosenfield, I. Laboratories and necropsy. In Rosenfield, I. Hospitals, integrated design. 2d ed. New York, Reinhold, 1951. Chapter 6 p. 98-114.
101. Hamilton Manufacturing Co. Functional layouts, a planning guide for modern hospital laboratories. Two Rivers, Wisconsin, (n.d.) 15p.
102. How to plan the laboratory for the general hospital. Mod Hosp 96(6): 83-98, June 1961.
103. Rappoport, A. E. Manual for laboratory planning and design. Chicago, College of American Pathologists, 1960. 98p.
104. U. S. Public Health Service. Division of Hospital and Medical Facilities in collaboration with College of American Pathologists. Planning the laboratory for the general hospital. Arch Rec 129(2): 160-8, Feb. 1961.

D. Infectious diseases laboratories

105. Animal Care Panel. Biological Safety Committee. Microbiological safety bibliography. Argonne, Ill., The Panel, 1961. 24p. References, 1910-1961.
106. Cook, E. B. M. Safety in the public health laboratory. Public Health Reports. 76(1): 51-6, Jan. 1961.
107. Coppa-Zuccari, G. Le centre de virologie de l'Université de Milan. Produits Pharmaceutiques 16: 216-20, May 1961.
108. Dalldorf, G. Introduction to virology. Springfield, Ill., Thomas, 1955. 102p. See Chapter 9: "The virus laboratory; suggestions regarding facilities, equipment and methods." p. 72-81.
109. Solotrovsky, M.; Robinson, H. J.; and Kniazuk, M. Design and operation of a laboratory for experimental tuberculosis. Amer Rev Tuberculosis 68: 212-9, 1953.
110. U. S. Army. Biological Laboratories, Fort Detrick, Md. Laboratory design for study of infectious disease, by E. Hanel, G. B. Phillips and G. G. Gremillion. Frederick, Md. Office of the Safety Director, 1962. 29p. (Technical Manuscript No.1 ).
111. U. S. Army. Biological Laboratories. Fort Detrick, Md. Microbiological safety in U. S. and foreign laboratories, by G. Briggs Phillips. Frederick, Md., Office of the Safety Director, 1961. 291p. (Technical Study 35) See particularly Chapter V, "Laboratory building design," p. 84-135.
112. U. S. Army. Technical Engineering Division. Fort Detrick, Md. Technical requirements for the design of bacteriological facilities. Frederick, Md., 1961. various paging.
113. Wedum, A. G. et al. Laboratory design for study of infectious disease. Amer J Pub Health 46: 1102-13, Sept. 1956.

E. Radiological laboratories

114. Braestrup, C. B. and Quimby, E. H. Design and recommendations for the radioisotope laboratory. In Scott, W. G. Planning guide for radiologic installations. Chicago, Year Book Pub, 1953. p. 184-94.

115. Building Research Advisory Board. Laboratory design for handling radioactive materials. Washington, National Research Council, 1952. 140p.
116. Cockcroft, J. Architectural and building requirements as related to atomic energy. Royal Inst of Brit Architects Journal 65(3): 76-86, Jan. 1958.
117. Denmark. Danish Atomic Energy Commission Research Establishment Risö. Radioisotope laboratory design, by K. Heydorn, K. A. Singer and J. Wangel. Roskilde, Denmark, 1961. 29p. (Risö Report No. 26).
118. Harris, W. B. Laboratories for the handling of radioactive materials. Heat & Vent 50: 74-8, Nov. 1953.
119. Hot labs: a Nucleonics special report. Nucleonics 12(11): 35-100, Nov. 1954. 36 articles on radioactive laboratories. Based on papers presented at an Atomic Energy Commission information meeting at Brookhaven National Laboratory, Upton, N. Y. May 26-28, 1954.
120. Mackintosh, A. D. Architectural problems in atomic laboratories. Arch Rec 111: 159-64, Jan. 1952.
121. Mackintosh, A. D. The radiochemical laboratory--an architectural approach to its design. Nucleonics 5: 48-61, Nov. 1949.
122. Miars, F. H. and Sanford, C. B. Designing a laboratory building for risky research. Eng News-Rec 166(14): 36-8, April 6, 1961.
123. Proceedings. Fifth hot laboratory operation and equipment conference, Philadelphia, 1957. New York, Pergamon, 1957. 298p.
124. Ruddy, J. M. Designing fume hoods for medium level radioactive conditions. Heat Piping & Air Cond 30(3): 128-31, March 1958.
125. U. S. Atomic Energy Commission. Design of laboratories for safe use of radioisotopes, by Donald R. Ward. Oak Ridge, Tenn., 1952. 48p.
126. U. S. Atomic Energy Commission. Argonne National Laboratory. Location, design and construction of facilities for nuclear research activities, by John R. Novak. Lemont, Ill., 1956. 13p.

#### IV. SPECIFIC LABORATORIES OR LABORATORY BUILDINGS

This is a representative sample of articles on individual research facilities to be found indexed in Applied Science and Technology Index, Architectural Index, British Technology Index, and Engineering Index.

127. Allison, David. Building for science. Arch Forum 114(2): 131-5, Feb. 1961. Temple University.
128. Art serves science; Medical research building, Univ of Pa. Arch Rec 128: 149-56, Aug. 1960.
129. Campus plan for a five-building research center. Arch Rec 130(5): 170-5, Nov. 1961. Parke, Davis & Co.
130. Centre de recherches: IBM, Yorktown Heights, États-Unis. L'Architecture d'aujourd'hui 33(100): 48-53, Feb./Mar., 1962.
131. Centre de recherches IBM pres de Nice. L'Architecture d'aujourd'hui 32(99): 28-9, Dec. 1961/Jan. 1962.
132. Deardorff, D. L. A research and manufacturing pharmacy laboratory. Amer J Pharmaceut Educ 21(2): 90-5, 1957. U. of Illinois College of Pharmacy.
133. Design and construction of three new laboratories. Manuf Chem 29:137-51, April 1958.
134. Devereux, R. C. de B. and Charlton, R. Design of a pharmaceutical laboratory. Inst Heat and Vent Eng Journal 30: 45-59, May 1962. Wellcome Foundation, Ltd., England.
135. Dow research center starts ninth lab. Chem & Eng News 39(40): 39-40, Oct. 2, 1961.
136. Fitch, J. M. Building of rugged fundamentals; University of Pennsylvania. Arch Forum 113: 82-7, 185, July 1960. A. Newton Richards Medical Research Laboratories.
137. Focus for research at Warren Spring laboratory where many programmes intersect. Engineering 188:67-8, Aug. 21, 1959.



138. IBM: a laboratory abroad. Arch Forum 114(3): 98-9, March 1961.
139. Labs expand medical center. Eng News-Rec 167(15): 25, Oct. 12, 1961  
University of Southern California Medical Center.
140. Logic and art in precast concrete; medical research laboratory, University  
of Pennsylvania, Philadelphia, Pa. Arch Rec 126(3): 232-8,  
Sept. 1959.
141. McQuade, W. The telephone company dials the moon. Arch Forum 117(4):  
88-97, Oct. 1962. Bell Laboratories, Holmdel, N. J.
142. Monsanto builds on a broad research program. Chem & Eng News 39(44):  
24-6, Oct. 30, 1961.
143. National Institute for Medical Research for the Medical Research Council.  
The Builder 178: 673-7, May 19, 1950.
144. Research and development headquarters. Arts and Architecture 77(3): 24-5,  
March 1960. Ramo-Woolridge facilities.
145. Research building. Prog Arch 34(2): 108-12, 1953. Massachusetts Gen.  
Hosp. Research Laboratory bldg.
146. Research in the round. Arch Forum 114(6): 81-5, June 1961. IBM.
147. Research laboratory and office building: Wyeth laboratories, Inc.  
Radnor, Pa. Arch Rec 121: 195-200, April 1957.
148. Three new buildings; CIBA Ltd. Engineering 187: 706-7, May 29, 1959.
149. Unique cross-curve plan for IBM Research Center. Arch Rec 129(7): 137-146  
June 1961.

APPENDIX

List of organizations concerned with building research and design.

1. American Institute of Architects  
1735 New York Ave. N. W.  
Washington 6, D. C.
2. Building Research Advisory Board  
National Research Council  
National Academy of Sciences  
2101 Constitution Ave., N. W.  
Washington 25, D. C.
3. Building Research Division  
National Bureau of Standards  
Washington 25, D. C.
4. Building Research Institute, Inc.  
2101 Constitution Ave. N. W.  
Washington 25, D. C.
5. Building Research Station  
Department of Scientific and Industrial Research  
Garston, Watford, Herts., England
6. Division of Architectural Studies  
The Nuffield Foundation  
Nuffield Building  
Regents Park  
London N. W. 1, England
7. Division of Building Research  
National Research Council  
Ottawa 2, Canada
8. Division of Hospital and Medical Facilities  
Bureau of State Services  
Public Health Service  
Washington 25, D. C.

9. Division of Research Facilities and Resources  
National Institutes of Health  
Bethesda 14, Md.
10. Facilities Planning Branch  
Food and Drug Administration  
Department of Health, Education & Welfare  
Washington 25, D. C.
11. Facilities Planning Office  
Communicable Disease Center  
Bureau of State Services  
Public Health Service  
Atlanta, Ga.
12. Research Facilities Planning Branch  
Division of Research Services  
National Institutes of Health  
Bethesda 14, Md.
13. Royal Institute of British Architects  
66 Portland Place  
London, W. 1, England
14. University Facilities Research Center  
University of Wisconsin  
Madison 6, Wisconsin

Organizations proposed

Building Technology Center  
Armour Research Foundation of  
Illinois Institute of Technology  
Technology Center  
10 West 35th St.  
Chicago 16, Ill.

National Institute of Building Research  
National Bureau of Standards  
Washington, D. C.